CLAIMS

What is claimed is:

1. A method for growing a transparent layer on a LED substrate, comprising:

providing a supersaturated solution, wherein said supersaturated solution comprises Sb as a solvent;

immersing the LED substrate into said supersaturated solution; and

growing the transparent layer onto the LED substrate.

2. The method according to claim 1, wherein said supersaturated solution further comprises In as the solvent.

3. The method according to claim 1, wherein said supersaturated solution further comprises a metallic dopant.

4. The method according to claim 3, wherein said metallic dopant comprises Zn.

5. The method according to claim 4, wherein said Zn is in an amount of 1/1000 to 1/10 by weight of the Sb.

6. The method according to claim 1, wherein said step of immersing the LED substrate into said supersaturated solution is performed under a temperature of about 500℃ to 1000℃.

7. A method for growing a transparent layer onto a LED substrate, comprising:

providing a supersaturated solution, wherein said supersaturated solution comprises Sb as a solvent;

immersing the LED substrate into said supersaturated solution;

growing a first transparent layer onto the LED substrate, wherein the first transparent layer has a first thickness;

immersing the LCD substrate with the first transparent layer into said supersaturated solution; and

growing a secondary transparent layer onto the first transparent layer on the LED substrate, wherein the secondary transparent layer has a secondary thickness.

8. The method according to claim 7, wherein said supersaturated solution further comprises In as the solvent.

9. The method according to claim 7, wherein said supersaturated solution further comprises a metallic dopant.

10. The structure according to claim 8, wherein said metallic dopant comprises Zn.

11. The method according to claim 10, wherein said Zn is in an amount of 1/1000 to 1/10 by weight of the Sb.

12. The method according to claim 7, wherein said step of immersing the LED substrate into said supersaturated solution is performed under a temperature of about 500℃ to 1000℃.

13. A method for growing a transparent layer onto a LED substrate, comprising:

providing a supersaturating solution, wherein said supersaturating solution comprises Sb and In as a solvent, GaP as a solute, and Zn as a dopant;

immersing the LED substrate into said supersaturated solution; and

growing the transparent layer onto the LED substrate.

14. The method according to claim 13, wherein said Zn is in an amount of 1/1000 to 1/10 by weight of Sb of the supersaturated solution in the LPE process.

15. The method according to claim 13, wherein said step of immersing the LED substrate into said supersaturated solution is performed under a temperature of about 500℃ to 1000℃.

16. The method according to claim 13, wherein said growing the transparent layer comprises the following steps:

growing a first transparent layer onto the LED substrate;

immersing the LED substrate with said first transparent layer into said supersaturated solution; and

growing a secondary transparent layer onto said first transparent layer.

17. A structure of a LED device, the structure comprising:

a LED substrate; and

a transparent layer on said LED substrate, wherein said transparent layer comprises a metallic Zn dopant.

18. The structure according to claim 17, wherein said transparent layer is formed by LPE process.

19. The structure according to claim 17, wherein said transparent layer is formed by LPE process utilizing a supersaturated solution comprising metallic antimony (Sb) and indium (In) as a solvent.

20. The structure according to claim 18, wherein said Zn dopant is in an amount of 1/1000 to 1/10 by weight of a solvent of a supersaturated solution in the LPE process.

21. The structure according to claim 19, wherein said Zn dopant is in an amount of 1/1000 to 1/10 by weight of Sb of the supersaturated solution in the LPE process.